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Prevalence of anaemia amongst women in the reproductive age group in a rural area in south india

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ARTICLEINFO	A B S T R A C T
Keywords: Anemia Women Reproductive age group Rural area	Abstract Introduction The importance of anemia as a major public health problem throughout the world is widely recognized. According to WHO, in developing countries the prevalence of anaemia among pregnant women averages 56%, ranging between 35 to 100% among different regions of the world. Various studies from different regions of the country (India) have reported the prevalence of anaemia to be between 33 and 100%. In India, anaemia is the second most common cause of maternal deaths, accounting for 20% of total maternal deaths Results -This cross-sectional study conducted in a rural area in the Dakshina Kannada district of Karnataka showed a overall prevalence of anaemia to be 34.83%. Prevalence was found to be more in the age group of 41-45, among women with parity index more than 4 and among women with birth interval less than 2 years between two births. Conclusion-Significant association between parity index and prevalence of anaemia as found in the present study calls for measures to limit the number of births by improving the family planning services in rural areas

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1.Introduction

Anaemia in pregnancy is a common and severe problem in many developing countries. In most developing countries anaemia in pregnancy makes an important contribution to maternal mortality and morbidity. Anaemia is particularly prominent in south Asia. In India, for example, upto 88% of pregnant and 74% of nonpregnant women are affected [1]. Anaemia affects mainly the women in child bearing age group, young children and adolescent girls [2-5]. WHO defines anaemia as a condition in which the Hb content of blood is lower than normal as a result of deficiency of one or more essential nutrients, regardless of the cause of such deficiencies. Anaemia is established if the Hb is below the cut off point recommended by WHO [6].

2.Materials and methods

A cross sectional study was conducted among women in the reproductive age group (15-45years) during September –December '07 in the rural field practice area of A J Institute of Medical Sciences , Mangalore, Karnataka using Universal sampling technique. The data was collected by personal interview

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using a pre-tested questionnaire and haemoglobin estimation was done using Talliqvist's chart. Anemia status of the study population was graded according to cut-off points for diagnosis of anaemia as given by WHO.

2.1. Hemoglobin estimation using the tallquist method⁷

A mature erythrocyte is mainly a package of the molecule hemoglobin. This molecule gives the erythrocyte its oxygencarrying power. If the concentration of hemoglobin in grams (g) per 100 millimeters (ml) is normal, the blood should have normal oxygen-carrying ability. Male values usually range from 13-18 g/100 ml, whereas female values normally are 12-16 g/100 ml. A departure from these norms, such as a deficiency, indicates that the oxygen-carrying capability is not normal. The amount of hemoglobin present in red blood cells is a good indicator of oxygen-carrying capacity of the blood. A simple method of measuring hemoglobin is to compare a small piece of Tallquist paper that has been saturated with a sample of blood with a Tallquist color chart.

2.2.Procedure:

Remove one square of paper from the Tallquist booklet.
Place 1-2 drops of blood on the center of the paper. Wait 15 seconds and compare your sample with the Tallquist scale.

Hemoglobin concentration _____ g/dL (3 pts

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Cut off point for diagnosis of anemia (WHO)⁸

	g/dl(%)	МСНС
AdultMales	13	34
AdultFemales(non pregnant)	12	34
AdultFemales(pregnant)	11	34
Children(6mts-6Yrs)	11	34
Children(6yrs-14Yrs)	12	34

3. Result

In the study population women in the age group of 31-35 constituted 25.9% while those in the age group of 26-30 constituted 21.4%. Muslims constituted 51.4% while Hindus constituted 44.8%. Among 155 women surveyed 66.% had received primary education.87% of the women surveyed were married. 33.7% of the study population had a parity index of 2. 64.5% of study population belonged to upper middle class of Modified Prasad's classification.63.6 % of the study population were beedi rollers by occupation. Prevalence of anaemia was more among women aged 26-40 years (table 2). Prevalence of anaemia was highest among women with parity index 4 followed by those with parity index of 3(table 3). The association between parity index and anemia status was found to very highly significant at 0.1 % level of significance. Prevalence of anaemia was found to be more (62.9) among women with an interval of 1-2 years between pregnancies followed by women with an interval of 2-3 years (37.1)

Table 1: Age wise distribution of study population (n=155)

Agegroups (yrs)	Number	%
15-20	25	16.1
21-25	21	13.5
26-30	33	21.3
31-35	40	25.8
36-40	25	16.1
41-45	11	7.1

Table 2: Age groups & anaemia(n=54)

Agegroups	Anaemiastatus	%
15-20	8	14.8
21-25	6	11.0
26-30	11	20.4
31-35	11	20.4
36-40	11	20.4
41-45	7	13.0

Table 3: Duration between pregnancies (n=112)

Duration between pregnancies	Number	%
1-2	41	36.6
2-3	24	21.4
3-4	37	33.0
4-5	9	8.0
5-6	1	0.9

Excludes those subjects who were not married and those who had not borne a child

Table 4: Duration between pregnancies and anemia status(n=54)

Duration between pregnancies (in years)	Anaemiastatus	%
1-2	34	62.9
2-3	20	37.1

• Women who had duration of pregnancy more than 3 years were found to be not anaemic in the present study

4. Discussion

The prevalence of anaemia in a population is best determined by using areliable method of measuring haemoglobin concentration⁹

Screening for anaemia in pregnancy is useful for a variety of reasons. It may be helpful to collect baseline data on prevalence and severity in a given population, and to assess the effects of supplementation with iron tablets, anti malarial prophylactics oral anti helminthic treatment. At primary care level, estimation of [Hb] can help decide whether referral is necessary for more detailed investigation and treat.

The Hemoglobin Colour Scale is simple to use, well accepted, cheap and gives immediate results. It shows considerable potential for use in screening for anemia in antenatal clinics in settings where resources are limited [10]. The Tallqvist colour scale with its new colour standards has been found to have a sensitivity in the range 80.0–95.2% and the positive predictive value of 63.0–98.5% [11].

In a study on adolescent girls by S. Kaur, P.R. Deshmukh, B.S. Gargthe prevalence of anemia was found to be 59.8% [12].

In a study on pregnant and lactating women by K.N. Agarwal, D.K. Agarwal, A. Sharma, K. Prasad, M.C. Kalita, N et al it was found that 84 % pregnant and 92.2 % lactating women were anaemic with severe anaemia in 9.2 and 7.3 per cent respectively [13].

Virender P. Gautam, Yogesh Bansal, D.K. Taneja, Renuka Saha in their study on pregnant women found that prevalence of severe anaemia was significantly higher in those with age >25 years, educated till high school or less, nuclear family, no history of abortions and birth interval of >36 months [14].

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Significant association between parity index and prevalence of anaemia as found in the present study calls for measures to limit the number of births by improving the family planning services in rural areas

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